

REMARKS

The amendments set out above and the following remarks are believed responsive to the points raised by the Office Action dated September 25, 2003. In view of the amendments set out above and the following remarks, reconsideration is respectfully requested.

The Pending Claims

Claims 4, 5, 32, and 41-48 have been canceled, and claims 1-3, 6-31, and 33-40 remain pending. Claims 49-51 are added by this amendment.

Claims 1, 7, 16, 19, 23, 27, 28, 33, and 37 have been amended, and claims 49-51 have been added, to describe the invention more clearly. No new matter has been added, the basis for the amended claim language may be found within the original specification, claims and drawings.

Claims 1, 27, and 28, are supported at, for example, page 8, lines 29-31 and page 17, lines 28-30. Claims 49-51 are supported at, for example, page 8, lines 8-12; page 8, line 29 through page 9, line 5, and Examples 1-4. Entry of the above is respectfully requested.

The Office Action

For convenience, the following remarks will address the various comments and rejections in the same order they were raised in the Office Action.

The Office Action indicated the application did not contain an abstract of the disclosure as required by 37 CFR 1.72(b). As provided herewith, the abstract published in the International publication is supplied.

Claims 1-48 were rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. According to the Office Action, claims 1, 27, 28 and 34 were indefinite with respect to the preparation of the crosslinked coating, and the terms "hydroxyl-rich" (claim 4), "substrate polymer" (claim 23), "biomolecule" (claim 37) and "crosslinks" (claims 22 and 41) are indefinite. The Office Action also alleged that claim 7 was indefinite to reciting an ionic monomer, claim 16 was indefinite as lacking positive antecedent basis, and claim 20 was indefinite with respect to deducing the initiator in the end product.

The claims have been amended to improve the form of the claims and more distinctly claim the subject matter which Applicants regard as their invention. Claim 1 has been amended to refer to a polysaccharide, as well as an anionic polymer prepared from polymerizing a mixture. Claim 7 has been amended to refer to an acrylate "ester." Claim 16 has been amended to provide more clear antecedent basis. Claims 23 and 33 have been amended to indicate the

substrate comprises a polymer. Claim 37 has been amended to more clearly recite the material. Claims 4, 22, and 41, have been canceled, thus rendering the rejection moot. It is respectfully submitted that claim 20 would be understood by one of ordinary skill in the art, and is thus not indefinite.

Thus, it is respectfully submitted that with these remarks and amendments to the claims, the rejections under 35 USC 112 have now been overcome and should be withdrawn.

Claims 1-4, 6-18, 20-27, 29-37, and 41-48 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,021,160 to Wolpert (hereinafter referred to as "Wolpert").

Claims 5 and 28 were rejected (independently) under 35 U.S.C. §103(a) as being unpatentable over Wolpert as applied to claim 4, further in view of European Patent Application No. 474 617 A1 (hereinafter referred to as "EP '617").

Claim 19 was rejected under 35 U.S.C. §103(a) as being unpatentable over Wolpert in view of EP '617 as applied to claim 5, further in view of U.S. Patent No. 5,783,094 to Kraus et al. (hereinafter referred to as "Kraus et al.").

Claims 38-40 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wolpert as applied to claim 1, and further in view of U.S. Patent No. 4,455,370 to Bartelsman et al. (hereinafter referred to as "Bartelsman et al.").

Each of these rejections is separately and respectfully traversed.

As an initial point, Applicants note that Wolpert *repeatedly* discloses using a *single* crosslinking monomeric unit that is *either* IBMA *or* HEMA (e.g., column 5, lines 42-47, and column 6, lines 51-52). While the Office Action states it would have been obvious to a person of ordinary skill in the art at the time the invention was made to crosslink both IBMA and HEMA with AMPS, the Office Action acknowledges this is not disclosed in Wolpert. The Office Action refers to column 6, lines 50-54 as supporting the conclusion that it would have been obvious to crosslink both IBMA and HEMA with AMPS, but this section teaches using *either* IBMA *or* HEMA. Thus, since Wolpert repeatedly teaches using a single crosslinking monomeric unit that is either IBMA or HEMA, and does not disclose using them together, the disclosure of Wolpert does not lead one of ordinary skill in the art to a negatively charged microporous membrane comprising a crosslinked coating wherein the crosslinked coating is prepared from a solution comprising an anionic polymer, the anionic polymer obtained by polymerizing a mixture comprising an unsaturated monomer having a negatively charged group, a hydrophilic non-ionic unsaturated monomer, and at least one or more N-(hydroxyalkyl)- or N-(alkoxyalkyl)- acrylamide monomers, wherein the crosslinked coating comprises amide-ester and amide-amide crosslinks. Accordingly, Applicants

respectfully submit that the disclosure of Wolpert does not render the present invention obvious. Since none of EP '617, Kraus et al. and/or Bartelsman et al. cure the deficiencies of Wolpert, it is submitted the rejection is improper and should be withdrawn.

Additionally, claims 1, 27, and 28 have been amended to indicate that the negatively charged membrane has a crosslinked coating prepared from a solution comprising a polysaccharide and an anionic polymer. There is no disclosure or suggestion in any of Wolpert, EP '617, Kraus et al. or Bartelsman et al., whether taken individually or in combination, of such a membrane or such a process of preparing a membrane.

For example, there is no teaching anywhere in Wolpert of a crosslinked coating prepared from a solution including a polysaccharide, and thus, one of ordinary skill in the art would not be led from Wolpert to the claimed invention. Additionally, EP '617 merely refers to pretreatment of a membrane, e.g., EP '617 discloses pretreatment with a surfactant such as hydroxypropylcellulose *before* depositing a substantial uniform layer of hydrogel. EP '617 does not disclose including a polysaccharide in preparing a crosslinked coating. Thus, one would not be led in view of Wolpert and EP '617 to a negatively charged microporous membrane comprising a porous substrate and a crosslinked coating, wherein the crosslinked coating is prepared from a solution comprising a polysaccharide and an anionic polymer, the anionic polymer being obtained by polymerizing a mixture comprising an unsaturated monomer having a negatively charged group, a hydrophilic non-ionic unsaturated monomer, and at least one or more N-(hydroxyalkyl)- or N-(alkoxyalkyl)- acrylamide monomers, wherein the crosslinked coating comprises amide-ester and amide-amide crosslinks. Thus, the combination of Wolpert and EP '617 does not render the present invention obvious.

Applicants submit one of ordinary skill in the art would not be led from the disclosures of Wolpert and EP '617 to that of Kraus et al. Nevertheless, even if one could be so led, the fact that Kraus et al. teaches a polysaccharide-type coating is of no import, as Kraus et al. simply does not remedy the deficiencies of Wolpert and EP '617. Similarly, the fact that Bartelsman et al. teaches transferring nucleic acids or proteins from an electrophoresis gel to a microporous adsorptive membrane does not remedy the deficiencies of Wolpert.

For the reasons set forth above, withdrawal of the rejections is respectfully requested.

Conclusion

In view of the amendment and remarks recited herein, the application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue.

In re Appln. of HOU et al.
Application No. 09/914,165

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jeremy M. Jay", is written over a horizontal line.

Jeremy M. Jay, Reg. No. 33,587
LEYDIG, VOIT & MAYER
700 Thirteenth Street, N.W., Suite 300
Washington, DC 20005-3960
(202) 737-6770 (telephone)
(202) 737-6776 (facsimile)

Date: 4 Feb 2004

Amendment or ROA - Regular (Revised 7/29/03)